

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): An electric power steering device comprising:

a small gear having a gear body which is rotated by an electric motor and on which a tooth portion is formed and shaft portions respectively formed so as to protrude from both end portions of said gear body and being smaller in diameter than said gear body;

bearings for respectively bearing both said shaft portions of said small gear so that said small gear can move in an axial direction;

two circular elastic bodies having flat portions formed on an inner circumferential side, and a tapered portion formed on an outer circumferential side connected to the flat portions, the elastic bodies being respectively externally fitted on both said shaft portions of said small gear, for suppressing movement of said small gear in the axial direction to shaft end portions; and

a large gear meshing with the tooth portion of said gear body of said small gear and connected to a steering means; and being configured to assist steering by rotation of said electric motor, comprising:

limiting members, arranged along outer circumferences of said shaft portions respectively at its both end portions of said gear body, for limiting deflection amounts of said elastic bodies,

wherein each elastic body is disposed adjacent to a respective one of the bearings and adjacent to a respective one of the limiting members,

wherein the bearings are roller bearings, and

wherein the circular elastic bodies are belleville springs with the flat portions at its end portions and multiple flexible pieces formed so as to protrude from the tapered portion to the inner circumferential side,

the limiting members being disposed between inner rings of the roller bearings and its both end portions of the gear body of the small gear, respectively, and

the inner rings of the roller bearings are configured so as to make contact with protruding side faces of the flat portions, and the limiting members are configured so as to make contact with rear faces of the protruding side faces.

Claims 2-3 (Cancelled)

Claim 4 (Previously Presented): The electric power steering device as set forth in claim 1, wherein
said bearings are configured so as to be movable in a direction wherein a distance between a
rotational center of said small gear and a rotational center of said large gear becomes long or short,
and

an energizing means for energizing said bearings in a direction wherein the distance between
the rotational center of said small gear and the rotational center of said large gear becomes short is
provided.

Claim 5 (Previously Presented): The electric power steering device as set forth in claim 4, wherein
said bearings are roller bearings, and
said circular elastic bodies are belleville springs disposed between inner rings of said roller
bearings and end portions of said gear body of said small gear.

Claim 6 (Previously Presented): The electric power steering device as set forth in claim 1, wherein
said bearings are roller bearings, and
said circular elastic bodies are installed in inner rings of said roller bearing.

Claim 7 (Previously Presented): The electric power steering device as set forth in claim 6, wherein
circular grooves are formed on outer circumferential faces of said inner rings of said roller
bearings between raceway grooves and side faces on sides of said gear body of said small gear, and
said circular elastic bodies are belleville springs whose inner circumferential portions are
formed so as to be fitted in said circular grooves formed on the outer circumferential faces of said
inner rings of said roller bearings.

Claim 8 (Previously Presented): The electric power steering device as set forth in claim 1, wherein said circular elastic bodies are belleville springs whose outer circumferential portions are formed so as to be fitted in circular grooves formed on inner circumferential faces of cylindrical concave portions formed at end portions of said small gear.

Claim 9 (Previously Presented): The electric power steering device as set forth in claim 1, wherein
said circular elastic bodies are cylindrical elastic bodies externally fitted over portions of said shaft portions of said small gear between inner rings of said roller bearings and end portions of said gear body of said small gear, and
said limiting members are provided at portions of end portions of said small gear inside said cylindrical elastic bodies.

Claim 10 (Previously Presented): The electric power steering device as set forth in claim 9, wherein
said cylindrical elastic bodies are coil springs, and
said limiting members are convex members provided so as to be integrated with the end portions of said small gear.

Claim 11 (New): An electric power steering device comprising:
a small gear having a gear body rotated by an electric motor and on which a tooth portion is formed and shaft portions respectively formed so as to protrude from both end portions of the gear body and being smaller in diameter than the gear body;
roller bearings for respectively bearing both the shaft portions of the small gear so that the small gear can move in an axial direction;
two circular elastic bodies installed in inner rings of the roller bearings, respectively externally fitted on both the shaft portions of the small gear, for suppressing movement of the small gear in the axial direction to shaft end portions; and

a large gear meshing with the tooth portion of the gear body of the small gear and connected to a steering means; and being configured to assist steering by rotation of the electric motor, comprising:

limiting members, arranged along outer circumferences of the shaft portions respectively at its both end portions of the gear body, for limiting deflection amounts of the elastic bodies,

wherein each elastic body is disposed adjacent to a respective one of the roller bearings and adjacent to a respective one of the limiting members,

wherein circular grooves are formed on outer circumferential faces of the inner rings of the roller bearings between raceway grooves and side faces on sides of the gear body of the small gear, and

wherein the circular elastic bodies are belleville springs whose inner circumferential portions are formed so as to be fitted in the circular grooves formed on the outer circumferential faces of the inner rings of the roller bearings.

Claim 12 (New): An electric power steering device comprising:

a small gear having a gear body rotated by an electric motor and on which a tooth portion is formed and shaft portions respectively formed so as to protrude from both end portions of the gear body and being smaller in diameter than the gear body;

bearings for respectively bearing both the shaft portions of the small gear so that the small gear can move in an axial direction;

two circular elastic bodies, respectively externally fitted on both the shaft portions of the small gear, for suppressing movement of the small gear in the axial direction to shaft end portions; and

a large gear meshing with the tooth portion of the gear body of the small gear and connected to a steering means; and being configured to assist steering by rotation of the electric motor, comprising:

limiting members, arranged along outer circumferences of the shaft portions respectively at its both end portions of the gear body, for limiting deflection amounts of the elastic bodies,
wherein each elastic body is disposed adjacent to a respective one of the bearings and adjacent to a respective one of the limiting members, and
wherein the circular elastic bodies are belleville springs whose outer circumferential portions are formed so as to be fitted in circular grooves formed on inner circumferential faces of cylindrical concave portions formed at end portions of the small gear.